Serial Number: 09/749,383

Filing Date: December 28, 2000

Title: METHOD AND DEVICE FOR LAN EMULATION OVER INFINIBAND FABRICS

Assignee: Intel Corporation

REMARKS

This responds to the Office Action mailed on July 5, 2005. Claims 11-13 and 16 are amended; claims 1-10 and 19-22 are canceled; and claims 23-55 are added. As a result, claims 11-18 and 23-55 are now pending in this application.

§103 Rejection of the Claims

Claims 1-4, 6-10, 19 and 21 were rejected under 35 USC § 103(a) as being unpatentable over Slemmer et al. (U.S. 6,377,990 B1, hereinafter "Slemmer") in view of Yamaguchi et al. (U.S. 6,789,104 B1, hereinafter "Yamaguchi"). Claims 5, 6, 20 and 22 were also rejected under 35 USC § 103(a) as being unpatentable over Slemmer et al. in view of Yamaguchi et al. and further in view of Cox et al. (U.S. 6,172,981 B1, hereinafter "Cox").

The Applicant does not admit that Slemmer, Yamaguchi, or Cox is prior art, and reserves the right to swear behind these references in the future. And, since a *prima facie* case of obviousness has not been established as required by M.P.E.P. § 2142, Applicant respectfully traverses these rejections.

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d (BNA) 1596, 1598 (Fed. Cir. 1988). The M.P.E.P. directs the Examiner in accordance with the *In re Fine* court:

In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d (BNA) 1438 (Fed. Cir. 1991)).

The requirement of a suggestion or motivation to combine references in a *prima facie* case of obviousness is emphasized in the Federal Circuit opinion, *In re Sang Su Lee*, 277 F.3d 1338; 61

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U.S.P.Q.2D 1430 (Fed. Cir. 2002), which indicates that the motivation must be supported by evidence in the record.

Claims 1-10 and 19-22, addressed by the Office in the current Office Action, are canceled. New claims 23-55 distinguish over the cited art. To wit, Applicant's independent claim 23 reads as follows:

at a local Infiniband (IB) node on an IB subnet, interfacing an IB protocol driver to a network protocol driver associated with a network protocol stack using a local Infiniband local area network (IBLAN) driver by emulating an Ethernet network interface card (NIC) driver at an interface between the local IBLAN driver and the network protocol driver;

receiving an outbound Ethernet frame from the network protocol driver; embedding the outbound Ethernet frame in a payload field associated with at least one outbound IB request packet to tunnel the outbound Ethernet frame across the IB subnet; and

causing the at least one outbound IB request packet to be sent to at least one remote IB node on the IB subnet, wherein the at least one remote IB node is configured with a remote IBLAN driver.

Applicant cannot find the limitations of Applicant's independent claim 23 in any of the three cited references or in any combination thereof.

Slemmer describes a proxy server on a visited network attached to an Internet gateway. The proxy server provides IP-to-IP network address translation services. Methods in Slemmer permit a computer with a "foreign" IP address to connect to the visited network to access the Internet from the visited network without requiring DHCP or bootP operations. A hotel guest might access the Internet from a hotel room using his/her laptop, for example. According to Slemmer:

In the present invention, the server stores information identifying IP addresses in a foreign class corresponding to computers not configured for connection to the local area network. The server responds to each ARP having a target IP address in the foreign class by returning the network adapter address of the server in the response message and assigning an IP address associated with the local area network to the IP address of the computer sending the ARP. The server translates each outbound message originating on the local area network for a destination address in the foreign class from an originating address for which one of the IP addresses associated with the local area network has been assigned. The translation consists of replacing the IP address of the computer originating the message with the corresponding IP address assigned to the computer. The

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translated message is then sent via the gateway. The server also examines each inbound message received on the gateway for a destination IP address associated with the local area network to determine if the destination address is an IP address that has been assigned to an IP address in said foreign class. If such an assignment has been made, the server replaces the destination IP address in the message with the foreign IP address and sends the inbound message on the local area network. See Slemmer, col. 3, lines 8-28 (emphasis added).

Applicant can find no description in Slemmer of LAN emulation over Infiniband, the subject of the Application, or of the invented mechanisms as claimed in the Application. Slemmer does not relate to LAN emulation, but rather is an IP proxy service, as described above. Neither does Slemmer relate to Infiniband, as the Office admits. See Office Action, pg. 3, lines 1-2.

The Office cites to Slemmer at col. 4, lines 25-50 for its assertion of prior art. However, Slemmer col. 4, lines 25-50 merely recites activities associated with standard address resolution protocol (ARP) operations. Following line 50, Slemmer describes a method of spoofing the ARP protocol to support the proxy IP services outlined in Slemmer. Applicant respectfully requests that the Office point out with particularity any areas of Slemmer alleged to be read on by claims in the current Application.

Neither can applicant find any description in Yamaguchi of LAN emulation over Infiniband, the subject of the Application, or of the invented mechanisms as claimed in the Application. Yamaguchi describes a method of LAN emulation over an asynchronous transfer mode (ATM) network. The Office suggests an analogy between Applicant's claims and Yamaguchi based upon both being "connection oriented." However, having a single common attribute, assuming arguendo that commonality exists in this respect, is not a proper test for obviousness. Rather, the combination of references must teach all the claim limitations.

M.P.E.P. § 2142. Applicant cannot find the limitations of independent claims 23, 38, 48, or 52 in Yamaguchi or in any combination of Slemmer and Yamaguchi.

In its citation to Cox, the Office asserts that "Cox et al. discloses that the MAC address comprises 48 bits. It is a well-known skill in the art that the 48 bits of Ethernet address comprises 16 bits used for local ID. Therefore, it would have been obvious to one skilled in the art to map 16 local ID bits in the MAC address of Slemmer et al. with

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the IP address to return Mac address to the node 16." Here the Office appears to confuse a generic meaning of "local ID" with "LID" as defined in the Infiniband Architecture Specification Vol. 1 (2000), as cited in the Application in the paragraph beginning with line 8 of page 2. Since the Examiner appears to be using his own knowledge for the assertion that an Infiniband LID embedded in an Ethernet address is well-known in the art, Applicant respectfully requests an Examiner's affidavit as required by 37 C.F.R. § 1.104(d)(2).

In summary, none of the references teaches individually nor does any combination thereof teach all the limitations of Applicant's independent claims 23, 38, 48, or 52. The requirements of M.P.E.P. § 2142 have not been satisfied, and a prima facie case of obviousness has not been established with respect to these independent claims. All dependent claims are also nonobvious, since claims depending from nonobvious independent claims are also nonobvious. See M.P.E.P. § 2143.03.

Allowable Subject Matter

Applicant notes that claims 11-18 were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant has rewritten claims 11-18 in independent form including all of the limitations of the canceled base claim 10, and respectfully requests confirmation of the allowance of these claims.

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Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney, Bruce Houston at 210-892-0437 x221, or Applicant's below-named representative to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

ARLIN R. DAVIS

By his Representatives,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 5th day of December 2005.

Amy Moriarty	
Name	Signature